

July 12, 1979

NOAA DIVING SAFETY BULLETIN #79-2

MEMORANDUM FOR: ALL NOAA DIVERS

FROM: J. Morgan Wells
NOAA Diving Coordinator

SUBJECT: Poseidon Regulator Hose Failure/Discontinued Use of
Poseidon Regulators

Several years ago we (NOAA) experienced at least three failures of hoses (dry suit inflator and breathing air) on Poseidon regulators.

The situation was believed to be rectified after all hoses were replaced on regulators with serial numbers specified by the supplier as being suspected of being defective. Two incidents within the past few weeks demonstrate that there is still a problem with these regulators which could result in serious accident. NOAA DIVERS ARE INSTRUCTED TO DISCONTINUE USE OF POSEIDON REGULATORS UNTIL FURTHER NOTICE.

Several Unit Diving Officers are working with NOAA Diving Office personnel in an attempt to rectify this situation in the shortest possible time. Contributions to this effort will be appreciated and should be addressed to the NOAA Diving Office.

It should be remembered that the loss of any of the hoses (dry suit inflator or octopus regulator) results in loss of air supply to the diver.

For those of you who may believe that discontinued use of these regulators is unnecessary, I offer the following convincing events for consideration.

1. From "The NOAA Diver" Vol. 2, Number 1, April 15, 1977

POTENTIAL EQUIPMENT PROBLEMS

The following is a excerpt of a memorandum received from NMFS diver Bob Shultz at Kodiak, Alaska, pointing out a potential problem with the Poseidon regulator:

"Recently during an environmental assessment of Wilson Arm, I experienced a very dangerous malfunction of my Poseidon regulator system. I was down about 45 feet when I hear a boom that sounded and felt like a small bore shotgun going off near my head. During this juncture, my regulator was blown from my mouth and I was forced to make a free ascent.

Apparently, what had happened was the pressed metal fitting which surrounds the air hose that fits over the fluting on the stem of the regulator had given way enough to allow the air pressure to cause ejection of the regulator from the hose. Since the regulator system had recently been inspected and reconditioned, this problem is probably attributable to an inherent weakness in the design of the system."

The Unit Diving Office at Auke Bay, Lou Barr, has noted that this may be a chronic problem as he has knowledge of a similar Poseidon failure prior to the one experienced by Schultz. It is strongly recommended that all hoses on the Poseidon should be carefully checked and the regulators used with an extra amount of caution.

As Lou Barr further notes, and we completely agree:

"This is an excellent example of the type of unforeseen emergency that can occur during an otherwise routine dive, and points out the need to have thoroughly trained and competent divers who can hand such emergencies."

2. From a November 22, 1977, memorandum from Tom McKinnon to Laboratory divers in Alaska.

At a depth of 85 ft it began with a loud ringing crack, then the sound of bubbles. The details of the Bob Schultz incident flashed in my mind and I instantly recognized my problem. My reflexes took over. I ditched my goody bag, tank and weight belt and started for the surface. The expanding air in my unisuit accelerated my ascent. I purged all air from my lungs around 60 ft and started to black out when I saw the surface from around 40 ft. I came to when I literally popped to the surface. During the last part of the ascent I grabbed the unisuit zipper and pulled it to release some of the air. The entire incident probably took less than 20 seconds, but had I delayed either by not immediately recognizing the predicament or by groping for straps or buckles, these details would probably be speculative or second-hand. I have since put my Poseidon regulator on the shelf and have advised all other Poseidon diehards to do the same. One incident is a freak, two is a tendency, and three is taking a big chance.

3. From an account of an incident occurring to Robert Budke in Alaska (July 1979)

I had just finished a dive and had made my exit onto a float when I hear air escaping. My partner checked my tank and regulator and found the inflator hose was loose and had slipped partway off the spigot fitting coming from the first state of my Poseidon regulator. In his attempt to push the hose back on it blew completely off.

I have been an active diver for many years and felt that my handling of diving equipment to be no better or worse than

most divers, so I don't feel we can attribute this incident to poor equipment handling.

4. From an account of an incident involving a trainee diver at Woods Hole, MA (July 1979)

At a depth of approximately 40 feet the "octopus" regulator blew off of the first stage with a "bang". The diver lost air to the regulator in her mouth. She immediately received air from her buddy's octopus and they ascended together.